

REMARKS

Claims 1-34 are currently under examination in the present application. For the reasons set forth below, Applicants request reconsideration of the application and submit that the present arguments place this application in condition for immediate allowance.

As an initial matter, in the Office Action dated March 29, 2010, the Examiner rejected claims 1-21 and 26-33 on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-26 of U.S. Patent No. 7,635,794. Without addressing the merits of the Examiner's double patenting rejection, Applicants are submitting herewith a terminal disclaimer pursuant to 37 C.F.R. 1.321(c). Accordingly, Applicants respectfully submit that the Examiner's double patenting rejection should be withdrawn.

In the Office Action, the Examiner maintained a rejection of claims 1, 2, 4, 5, 8, 9, 16-19, 22, 24, 25, 28, and 29 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,229,060 ("Vidal"). In particular, the Examiner asserted that, although only silica is utilized as a support in the examples of Vidal, Vidal still anticipated the claims of the present application because alumina is disclosed in Vidal as the "preferred" oxide support. For the reasons set forth below, Applicants submit that this rejection is respectfully traversed and should be withdrawn.

Contrary to the Examiner's assertions, and has been previously pointed out by Applicants, Vidal includes no express teaching or suggestion of a supported metallic compound comprised of an aluminum oxide support onto which tungsten hydride is grafted, as is recited in the claims of the present application. In contrast to the present

application, Vidal only expressly discloses the grafting of tantalum or tungsten hydride onto silica (*see, e.g.*, Vidal, Examples 4 and 6), and does not specifically teach or suggest a compound comprised of the specific combination of tungsten hydride grafted onto an aluminum oxide support, much less teach or suggest that such a combination should be produced and/or would be able to function as a catalyst. Instead, Vidal only indicates that “mention may preferably be made, among the support of oxide type, of silica, alumina, silicas-alumina, or niobium oxide, zeolites, without the list being limiting” and then separately indicates that “tantalum, tungsten or chromium hydrides grafted to silica or silica-alumina are more particularly recommended.” See Vidal, column 3, line 66 to column, 4, line 6. As such, even though Vidal mentions an alumina support, Vidal in no way teaches or suggests a specific selection of aluminum oxide and tungsten hydride, as would be required to sustain an anticipation rejection under 35 U.S.C. § 102(b)..

Furthermore, as noted above, it is also the case that Vidal does not anticipate the claims of the present application because Vidal also includes no teaching or suggestion that a combination of an aluminum oxide support and tungsten hydride should even be produced and/or would be able to function as a catalyst. In Vidal, only the use of a silica support is exemplified and, more specifically, the specific combination of tantalum hydride grafted onto a silica support is disclosed as the preferred catalyst. In the Examples of Vidal, the metathesis of propane using tantalum hydride grafted onto a silica support (*see, Vidal, Example 4*) is compared with the metathesis of propane using tungsten grafted onto a silica support (*see, Vidal, Example 7*).

However, a comparison of the results from those reactions in Table 2 and 5 of Vidal, respectively, clearly shows that, after 20 hours of reaction time, the yields and selectivity of the reaction that made use of a tungsten hydride-grafted silica support were lower than those observed with the tantalum hydride-grafted silica support. As such, not only does Vidal teach away from the selection of alumina as a support and tungsten hydride as the grafted metal by specifically teaching that silica supports should be used with tantalum hydride, it also does not teach or suggest a combination of an aluminum oxide support and tungsten hydride should even be produced or would be able to function as a catalyst. Indeed, assuming that one of ordinary skill in the art would have even been led to develop and test different combinations of supports and grafted metals upon reading Vidal, they would have necessarily utilized either tantalum hydride or a silica support in the combination and would not have abandoned the use of both tantalum and silica, as would be needed to arrive at a tungsten hydride-grafted alumina support.

In summary, Vidal does not teach or suggest a compound that is comprised of the specific combination of tungsten hydride grafted onto an aluminum oxide support, and moreover does not teach or suggest that such a combination should be produced and utilized as a catalyst. Vidal only mentions a support comprised of alumina and does not teach or suggest that the alumina should be combined with tungsten hydride. Further, as discussed above, Vidal only describes tantalum or tungsten hydride grafted onto silica (*see*, Vidal, column 4, lines 4-6) and further teaches that tantalum hydride on a silica support is the preferred combination. Vidal thus in no way teaches or suggests a tungsten hydride-grafted alumina support, as described and claimed in the present application.

Accordingly, Applicants respectfully submit that the claims of the present application, as amended, are not anticipated or rendered obvious by the cited Vidal reference, and thus further submit that the Examiner's rejections are respectfully traversed and should be withdrawn.

In the Office Action dated March 29, 2010, the Examiner also maintained a rejection of claims 26-33 under 35 U.S.C. §103(a) as being unpatentable over Vidal in combination with either U.S. Patent No. 7,220,888 ("Vanoppen") or U.S. Patent No. 6,469,225 (Basset). In particular, although the Examiner acknowledged that Vidal does not describe the use of a tungsten hydride-grafted alumina support in a process for preparing certain hydrocarbons or in manufacturing alkanes, the Examiner has asserted that it would be obvious to use the catalyst of Vidal in the processes suggested in either Vanoppen or Basset. For the reasons set forth below, Applicants submit that this rejection is also respectfully traversed and should be withdrawn.

Despite the Examiner's assertions that it would be obvious to incorporate the catalyst of Vidal in the processes suggested in Vanoppen or Basset, it is still the case that Vidal does not teach or suggest a compound that is comprised of a specific combination of tungsten hydride grafted onto an aluminum oxide support, as is described and claimed in the present application. As discussed in detail above, Vidal only mentions a support comprised of alumina and does not teach or suggest that the alumina should be combined with tungsten hydride. Instead, Vidal merely describes compounds comprised of tantalum or tungsten hydride grafted onto silica (*see*, Vidal, column 4, lines 4-6) and then further teaches that tantalum hydride on a silica support allows for better results than

tungsten hydride on a silica support. Vidal in no way teaches or suggests a tungsten-hydride-grafted aluminum oxide support, as described and claimed in the present application, and the cited Vanoppen and Basset references do nothing to cure this deficiency.

As discussed in response to previous Office Actions, Vanoppen describes a process for the preparation of a hydrocarbon using a catalyst, and provides a list of hydride metals and a list of various supports onto which the metals can be grafted. However, Vanoppen only provides an example of the use of tantalum grafted onto silica as a catalyst in preparing hydrocarbons, and does not include any express teachings or suggestions regarding the use of tungsten hydride grafted onto an aluminum oxide support.

Similarly, and as also discussed previously, Basset also describes the use of a catalyst in an alkane metathesis reaction, and provides a list of hydride metals as well as a list of supports onto which the metals can be grafted. However, and similar to the Vanoppen and Vidal references described above, Basset provides no teaching or suggestion of the specific combination of tungsten hydride grafted onto an aluminum oxide support, and further provides no teaching or suggestion that that specific combination can or should be used as a catalyst. Instead, like Vidal and Vanoppen, Basset teaches away from the use of a tungsten hydride-grafted aluminum oxide support by expressly indicating that tantalum should be grafted onto a silica support.

Accordingly, Applicants respectfully submit that the present invention is not rendered obvious by Vidal in combination with Vannopen or Basset and that the claims of the present application are clearly patentable over those references. Applicants thus submit that the Examiner's rejections on the basis of those references is respectfully traversed and should be withdrawn.

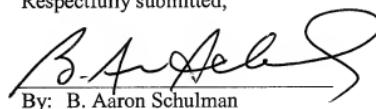
In the Office Action dated March 29, 2010, the Examiner then rejected claims 3, 5, 6, 7, 9-15, 20, 21, and 23 under 35 U.S.C. §103(a) as being unpatentable over Vidal in view of U.S. Patent No. 4,085,067 ("Pollitzer"). In making the rejection, although the Examiner acknowledged that Vidal does not teach any specific physical properties of an alumina support, the Examiner asserted that Vidal teaches a compound comprised of a tungsten-grafted alumina support and that Pollitzer can be used to provide specific physical properties of alumina supports. For the reasons set forth below, Applicants submit that this rejection is also respectfully traversed and should be withdrawn.

Again, contrary to the Examiner's assertions, Vidal includes no teaching or suggestion with regard to a compound comprised of a tungsten-grafted aluminum oxide support. As discussed above, Vidal only mentions a support comprised of alumina and does not teach or suggest that the alumina should be combined with tungsten hydride. Pollitzer adds nothing further in this regard and merely describes various forms of alumina. Accordingly, Applicants submit that the claims of the present application are not rendered obvious by the cited combination of Vidal and Pollitzer and, thus, Applicants further submit that this rejection is also respectfully traversed and should be withdrawn.

In light of the arguments provided herewith, Applicants submit that the present application overcomes all prior rejections and objections and has been placed in condition for allowance. Such action is respectfully requested.

Respectfully submitted,

Date: July 26, 2010



By: B. Aaron Schulman
Registration No.: 31,877

STITES & HARBISON PLLC♦1199 North Fairfax St♦Suite 900♦Alexandria, VA 22314
TEL: 703-739-4900 ♦ FAX: 703-739-9577 ♦ CUSTOMER NO. 000881